

A high-angle, wide-lens photograph of a hang glider in flight over Monument Valley, Arizona. The glider is white with prominent red 'Red Bull' logos and a red bull head graphic on its wings. The pilot is visible in the center, wearing a black jumpsuit and a helmet. The landscape below is a vast, rugged desert with iconic sandstone buttes and mesas under a clear blue sky.

# AIR

## **HUCKSPEDITION 2003**

**CHRIS MULLER  
TAKES ON ARIZONA'S  
MONUMENT VALLEY IN  
HUCKSPEDITION 2003**

**PG 14**



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photo courtesy Michael Fuller

Michael Fuller launches from Hidden Falls during the 2002 Paragliding and Hang Gliding Festival

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Chris Muller flies amid Arizona's awe-inspiring terrain as part of Huckspedition 2003. See story, pg 14.

by Christian Pondella



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DOUG KELLER

# A call for involvement

With HPAC/ACVL elections quickly approaching, representation across the country is priority number one

Things have improved for the HPAC/ACVL since my last writing, and the outlook for the future is looking good. With a new insurance policy in place at a premium that was less than expected, and with lower production costs for *AIR Magazine*, our financial situation is better

budget will be available on the HPAC/ACVL Web site.

Membership is starting to rebound with an increase of 15 members since January, and with a concerted effort to support our instructors to generate new members and encourage ex members to rejoin, I'm hop-

interested in getting involved and having an impact on the operation and direction of the association consider sending in your nomination. If you know a pilot that you think has the right attitude, ask if they would consider being nominated.

Keep in mind, though, that it does take

“Single candidate elections just aren't in the Association's best interest, so help us have real elections this year.”

than expected and should continue to improve. A couple of years of stability should bring us back to the cash reserves we had before the insurance crisis of last Spring. The directors will be approving this year's budget at our planned directors meeting, which should have taken place by the time you get this magazine. Once approved, the

ing we can add another 50 members by year's end. This would bring us up to 760-770 members. At this level our finances would be in great shape.

In the last issue I mentioned the upcoming election of regional directors. Check out the notice on pg. 9 for details. If you live in one of the affected regions and are

a reasonable level of time and commitment — although not excessive. Most of the time, for the average director, an hour or two per week would be lots of time to keep up with what is happening, a little more when it is busy and a little less when it isn't. An email account is a necessity, as most of the business is handled through



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*The air up there in the clouds is very pure and fine,  
bracing and delicious. And why shouldn't  
it be? — it is the same the angels breathe.*

— Mark Twain



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N2H 6S9

email discussions and voting.

Don't expect that the incumbent di-  
rector will continue or that someone else  
will do it. If there are no candidates for a  
region, that region will go without a re-  
gional director until the next election in  
two years. I will have been at this for three  
years by the end of this term, and I'm not  
sure if I will be continuing, so I'd really  
like to see at least one nomination for the  
Alberta & NWT region. I really only did  
it in the beginning because at the time  
I heard there was no nomination for  
Alberta and I didn't want Alberta to be  
without a director.

As I said before, single candidate elections  
just aren't in the Association's best interest,  
so help us have real elections this year.

That's about it for this issue. The flying

season will be well under way by the time this  
issue in print, and I'm really looking forward  
to a good year. I'm hoping to see as many of  
you as possible at the Western Canadian HG  
Championship and Canadian Record Camp  
in Alberta in May. It should be a great flying  
experience. We're trying something new this  
year by incorporating a charity fund-raising  
event into the meets to not only help a wor-  
thy cause, Multiple Sclerosis research, but  
also raise the profile of the sport and gener-  
ate some positive PR. If you can't make it to  
the meet to fly, at least consider sponsoring  
a participating pilot. Every dollar counts.  
Check out the story on pg. 10 for more details  
on the event and how to become a sponsor.

—Doug Keller  
HPAC/ACVL President



photo courtesy Dennie Shipley

Hang glider pilot Dennie Shipley launches at the Splashdown in Kimberley, BC.

# SUBMIT!

next deadline:  
may 15



## Articles:

Send in your travel stories, equipment  
reviews, letters, regional club news,  
announcements, event listings,  
classified ads or anything else that  
might interest AIR readers. If you're not  
sure your article will fit, send in a  
proposal before you write it. Any  
relevant photos should be sent in when  
possible.

## Photos:

Photos should be 200 dpi minimum  
(300 dpi or better for cover shots),  
saved as JPG (maximum quality) or  
TIFF files. Photos from digital  
cameras can be sent as the original  
JPG or TIFF files produced by the  
camera. Contributors without access  
to a scanner/digital camera can mail  
in prints, slides or negatives. All  
photos should include caption  
information. Email for details.

Direct all inquiries to:  
**James Keller, AIR Magazine Editor**  
air@hpac.ca

# Quick news and miscellany

## New FAI anti-doping regulations in effect

On April 1, the new edition of the FAI Sporting Code came into force. The updated code contains new rules on doping, and includes a document titled, "FAI Anti-Doping Rules and Procedures." The regulations contain a new list of prohibited substances that all competitors in FAI meets should abstain from taking.

For more info, visit: <http://www.fai.org/medical/nodoping.asp>

## Hang gliders a security threat?

"The Canadian Forces top intelligence officer, Major General Michel Gauthier, warned that terrorist groups have purchased ultra-light aircraft and hang gliders for use in attacks as they search for new ways to get around increased security," writes Norma Greenaway in the March 26 issue of the *National Post*. "In all likelihood we will see a growing use of such equipment by terrorists to

circumvent ground-based countermeasures,' said Gauthier."

## Correction

The photo in the table of contents in the Feb. issue of *AIR* was incorrectly attributed.

It was originally credited to Gerry Grossenegger, but this great photo was actually taken by Winnipeg hang glider pilot Doug Beckingham. The photo shows Doug and his wife, Janet, flying tandem.

Submit your ad:  
[air@hpac.ca](mailto:air@hpac.ca)

## AIR CLASSIFIEDS

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# From towing in the prairies to splashing down in British Columbia

## 28th Annual Lakeside Event



On August 7, 2004, relax on the beach, check-out the latest equipment and participate in beachside gatherings, parties and general fun.

Hang gliders and paragliders take off from Mt. Swansea and descend to targets on the beach and in the water on beautiful Lake Windermere. There is also an aerobatics contest for paragliders.

Entry fee: \$35/pilot (\$45 after July 24), and includes ground transportation for pilots, helicopter transportation for hang gliders (if available), T-shirt, pancake breakfast, banquet and party at Lakeside Pub.

### Contact:

Max Flanderl  
1-250-342-0461  
fly@LakeSideEvent.com



## 2004 Canadian Nationals

The 2004 Canadian Nationals take place in Lumby, British Columbia. Paragliding takes place June 6 – 12, and hang gliding runs June 13 – 19.

The meet is later than usual, to coincide with the summer solstice and Lumby Days.

Mark Dowsett is organizing this year's meet, and it will be hosted by the Lumby Air Force.

For registration information, visit the Web site at [dowsett.ca/cdnmats/](http://dowsett.ca/cdnmats/)

### Contact

Mark Dowsett  
mark@dowsett.ca  
(604)461-0874

## Miles in may on the prairies

Book your holidays now for the xc event of the 2004 season.

Miles in May is a week-long double header combining the resurrected Western Canadian Hang Gliding Championship and the new Canadian Record Camp. The focus of these events will be xc distance using the Online Contest points system for scoring. The OLC system uses multiple turn points and triangles to optimize flights distance.

Each pilot will fly their own course each day based on their own assessment of the optimum distance task for the conditions. The wcc will be a two-weekend event with the first in southern Alberta and the second on the May long weekend in central Alberta.

Because of the late retrieves common with open-distance xc flying, Monday of the long weekend will be a free flying day with only presentation of awards in the morning and allowing a travel day for those heading home. The Canadian Record Camp will be held during the week between the wcc weekends and will be focused on breaking existing Canadian records, although it will also be scored using the OLC points system. Both events will be submitted for HPAC sanctioning.

Both events require GPS track log for scoring, and scoring for both will be based on the Online Contest (OLC) points system.

The event website is at <http://members.shaw.ca/skyward/milesinmay.html>

### Western Canadian Hang Gliding Championship 2004:

May 15 – 16: Tow launch at the Standard/

Gleichen, Alberta Tow site

May 22 – 23: Based at Double Dam Golf Course at Rosalind, Alberta

Tow launch at various area sites or foot launch at the Camrose/Dried Meat Lake ridge.

Format will be xc distance.

Entry Fee: \$40

### Canadian HG Record Camp 2004:

May 22 – 23: Based at Double Dam Golf Course at Rosalind, Alberta

Tow launch at various area tow sites or foot launch at the Camrose/Dried Meat Lake ridge.

Format will be xc distance with an emphasis on breaking existing Canadian records.

Entry Fee: \$40

Cash prizes for Open and Under 100 km Classes.

A Paraglider Class will be added if there is enough interest.

This is the site of the only 100+ mile flights in Canada in 2003.

Enter both events for only \$70.

### Contact:

Doug Keller  
skyward@shaw.ca  
(403)293-4008

## Eighth annual Willi Muller XC Challenge

July 24 – Aug. 2, 2004, Golden, B.C.

Paragliders and hang gliders welcome. We'll set it up, so you don't need to be there the whole time to compete. The format is similar to last year's: points for xc km's flown with bonus for O & R. Enjoy a competitive atmosphere while having a lot of fun and learning something about mountain flying. If you have any suggestions, send them to me. If you want to become a better pilot and achieve personal bests, be there.

### Contact

Randy Parkin  
randy@keyinc.com  
(403)256-3039

# Notices and news from the locals

## Site news from the Okanagan Soaring Club

BY FRED WILSON

A new site has been pioneered west of Keremeos north of Hedly.

Stoney Creek (South of Salmon Arm) has been reopened after the BCFS slashed the brush on the road in. LZ's are sensitive so this great intermediate site is declared "xc only," which is what it is best for.

A new flying site at Lavington features two competition-quality launches for paragliders at an unofficial British Columbia Forest Service park ("The Pond and Aberdeen Trails").

Pics, info and a "Virtual Tour" are available at the Okanagan Soaring Association Web site. We are hoping and asking pilots to come fly with us early this year, so we can prove what a great xc comp site this is. It's one of very, very few sites in Canada that typically has great altitude gains in intermediate air, and that secondly has huge set-up and staging areas for large competitions. This is a site with a couple of launch directions where many gliders can launch side by side, and there are three large staging areas: the east bowl, the centre ridge and the west bowl (facing SE - SW) where competitors can gaggle away and climb out totally clear of pilots struggling off launch. We need lots, lots more sites of this calibre and then maybe one day we can hold a CIVL Worlds meet.

Cambie Corner in Salmon Arm was wiped out by logging activity. However, new clear cuts on the NW face are very promising for a new site, with downwind xc routes heading right into a famous convergence zone. While the old launch was rated advanced, this new one could, if lucky, be novice rated. Spring will tell.

The Salmon Arm gang has opened a new east-facing flying site up the Spyder Creek Road in the burned-out area on Fly Hills.

Sicamous ramp repairs should be completed this spring. In addition, we hope to open a new paragliding launch (quick road up) suitable for srvc clinics directly over that fabulous "Old Town Beach" LZ (boat access only).

BCFS still has a recreation department, responsible for recreational use of crown lands. We will use this avenue in preference to LWBC



photo by Fred Wilson

Lavington Bowl: a new site in the Okanagan

to secure new sites. (I firmly believe our commercial uses are "incidental" at most, and this is the route we need to explore.) Several meetings with BCFS (and logging companies where they are designated responsible) have our hopes high for new sites in new logging areas. BCFS promises to keep our interests in consideration when deciding on clear-cuts, so the future looks good.

## Rocky Mountain Hang Gliding League News

BY KAREN KELLER

The Rocky Mountain Hang Gliding League held its annual awards ceremony in March. It is a great chance to acknowledge pilot accomplishments and get together for great food (pilots can cook), videos and partying.

This year, many personal bests were achieved, and I would like to congratulate the following pilots.

### Level 4 and 5:

Ralph Herten: Most Hours (45.24 hrs)

Doug Keller: Longest Turnpoint (57.4 km), Longest xc (167.4 km) and Most Distance (639.7 km)

James Lintott: Duration (4.25 hrs)

Jeff Runciman: Altitude Gain (9,010 ft) and the League Award

### Level 1:

Mike Slater: Most hours (.07 hrs) and duration (65 sec)

A special congratulation to Jeff for his altitude gain at Golden, and to Doug for his "I finally got a hundred Miler." This flight was off tow at the site of the Record Camp and fundraiser hosted by the RMHGL this May.

In other RMHGL news, welcome to our new Board of Directors. President Ralph Herten, Secretary Mitch Nixon and Treasurer Jeff Runciman.

We also had 2 new beginner pilots last year, Mike and Fiona. Doug Keller and I took them out for their first high flights, and they did great. The club is a good place to advance in hang gliding by learning from upper level pilots. Anyone interested in joining the club is welcome to come out to our monthly meetings. They are held the second Tuesday of every month except August at Koko's Bikini Bar in north east Calgary. For more information, feel free to contact me anytime (403)293-4008 or karenkeller@shaw.ca.



The Rocky Mountain Hang Gliding League crowned a host of winners in its annual awards.



# Call for nominations for the 2004 election of directors

## Introduction

The HPAC/ACVL is now accepting nominations for the 2004 election of directors for the regions of Quebec, Manitoba/Nunavut, and Alberta/NWT. The new Directors will take office at a time to be determined, but expected to be sometime between September 2004 and February 2005. Directors will normally hold their positions for two years. Elections for other regions were held in 2003, and appointments are normally for two years.

The Business Manager, John Burk, will act as Election supervisor.

The regulations for elections are detailed in PRD 205 which can be found on the HPAC/ACVL web site, <http://www.hpac.ca/pub/?did=204>. This call for nom-

inations summarizes the most important points for this stage of the elections. The voting procedures will be specified in the Summer editions of *AIR* and *Survól*.

## Nominations

The Election supervisor will accept nominations until June 30th, 2004.

Members can submit their nominations by mail or e-mail {[admin@hpac.ca](mailto:admin@hpac.ca)} and must include member name, address, e-mail address if available and membership number.

Members may nominate themselves or be nominated by another member. A member nominated by another member must confirm that he/she accepts the nomination. Nominations do

not need to be seconded.

If there is only one nominee per region by May 10th, 2004, that person shall be named to the BOD by acclamation, and no further voting need be conducted.

If there are no nominees for a region, then no Director will represent that region. Any regions without a elected Director will have its interests represented jointly by the other Directors on the Board of directors.

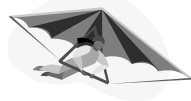
Nominees will submit a brief statement to the Election supervisor explaining their reasons for interest in standing for the Board of directors. These will be published in the Summer editions of *AIR* and *Survól* as appropriate.

Good luck to all nominees.

– Your Board of Directors

photo by Dinnie Shipley

## FLY for a Cure



### Hang Gliding Tow Meet

- Miles in May
- Western Canadian Hang Gliding Championship
- Canadian Record Camp

**May 15 – 23, 2004 Alberta**



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PCL is a proud sponsor of "Fly for a Cure" to support the **United Way** and those affected by **Multiple Sclerosis**

THIS MAY, CANADIAN PILOTS

# FLY FOR A CURE

BY RALPH HERTEN

The 2004 Western Canadian Hang Gliding Championship and Canadian Record Camp are two events being held this year in the Calgary and Camrose, Alberta areas. The events are being organized by the Rocky Mountain Hang Gliding League under the banner Miles In May On The Prairies and have been scheduled concurrently into the week of May 15 to May 23 as follows:

- Western Canadians Part I: Weekend of May 15/16 at the Gleichen/Standard tow site (Calgary area)
- Canadian Record Camp: Monday, May 17 – Friday, May 21 at the Double Dam tow sites (Camrose area)
- Western Canadians Part II: Weekend of May 22/23 at the Double Dam tow sites
- Awards & Travel Day: May 24 at the Double Dam Campground

Both events are tow meets based in the Alberta “flatlands” where May soaring conditions have been known to produce 100+ mile flights. From early reports the events should be well attended and we’ve already placed our order for strong thermals, high miles and good times.

To add some excitement to the events and help a good cause, we are organizing a United Way fundraising drive dubbed as “Fly for a Cure.” Both events will be combined under this banner, and competitors will be encouraged to secure sponsorships from individuals and companies. The format will be as a sponsorship per kilometre flown. A simple web site is being planned which will list all competitors and provide running totals for kilometres and dollars raised. Half of the total proceeds will be assigned towards Multiple Sclerosis research and the balance will be distributed to other United Way beneficiaries.

To get things rolling, I have secured the support of my employer, PCL Construction Management [www.pcl.com](http://www.pcl.com) where I work as a construction project manager in Calgary. PCL will be taking a lead sponsorship role



photo by Karen Keller

**Doug Keller tows up on his system, which will be one of many involved in the Fly for a Cure fundraising meet this May. The meet will raise funds for Multiple Sclerosis research and the United Way.**

and will be encouraging the participation of some of our business partners. PCL will also be assisting with the administration of the event and support behind the scenes. Hopefully other companies and individuals can be inspired to get involved in a similar way, but even a small sponsorship amount will help towards a good cause and will provide some added incentive for those long xc distances.

We are still working out the finer details at the time of writing this article but things should be taking shape by the time this

hits the presses. Cool T-shirts with sponsor logos are in the works and competition logistics are being finalized. Current information is being posted on the Miles in May webpage (<http://members.shaw.ca/skyward/milesinmay.html>) as well as the Fly for a Cure webpage (<http://members.shaw.ca/flyforcure/>) and will be forwarded to competitors as they sign up

To sign up or get more information, please contact myself at [rherten@pcl.com](mailto:rherten@pcl.com) or meet director Doug Keller at [skyward@shaw.ca](mailto:skyward@shaw.ca).

# Aerodyne International: Inspired Design

The head of Aerodyne International, Michel le Blanc, talks shop

BY AMIR IZADI

**B**ecause of his tenacity and prowess on the competition circuit, when he was on the French National sailing team, Michel Le Blanc's nickname was "White Wolf." By merging his passion for wind sports with his training as an engineer, Michel founded ITV in 1981 to design windsurf sails. One of these designs led him to capture the windsurfing speed record of 43.87 knots — a record he still holds today.

In 1984, at the very outset of the sport, Michel began designing paragliders with ITV. As one of the first paraglider designers, Michel's influence has been far reaching. Today, after 20 years in the business, he is just as enthusiastic about design and invigorated about his new company, Aerodyne, which emerged last year from the ashes of Flying Planet.

Led by Michel, and employing many of the core management and test team that made up Flying Planet, is headquartered near Annecy, one of the birthplaces of paragliding and a world-renowned mecca of the sport. Already, in their first year of operations, Aerodyne have exceeded their own expectations in both podium wins and sales. Michel le Blanc and company clearly demand a closer examination.

**AI: Where do you get your inspiration for designing paragliders?**

**ML:** Through lots of hard work and perspiration. From the very beginning, we've worked very hard to develop a vision of what each glider should be, and then used our custom design software and test pilot feedback to create gliders that match our original dream as perfectly as possible. It's really been a long, long road that we have travelled because the software program we use has developed very slowly. But in the end the design software is only a tool.

**AI: Where is this tool the most helpful, and how much do you rely on it?**

**ML:** I am always working with the software



Michel le Blanc relaxing at the Aerodyne office in Annecy, France

programmer to perfect and fine tune the design software. It's a very big job — as big probably as what the test pilots do. Without the pilots of course, it's not possible to understand the behaviour of the glider in dynamic conditions, and without the design program it is not possible to calculate what the pilots want.

**AI: Does the software program help in predicting the result of the DHV test, or does it help only in predicting performance?**

**ML:** Not only performance, but all the various aspects of the glider's behaviour. We cannot say that a particular glider will eventually be calculated for a DHV 1 or DHV 2 rating. We have an idea of the glider we want to build — the number of cells, the shape, the aspect ratio, etc. These various factors will effect how it performs in the DHV test. Afterwards, we have to trim for the best combination of handling and test

results.

**AI: What is your philosophy behind designing gliders?**

**ML:** Safety first.

**AI: ITV was a company that you founded yourself and had a lot of success with. What happened that made you leave the company?**

**ML:** When Mr. Soo of Korea bought ITV, it quickly became apparent that he and I had very different visions of where the company should go. He was insistent on using certain fabrics and lines that I was not comfortable with. I could no longer, in good conscience, continue to work there; so I left. It wasn't just me, at that time Mr. Gin Seok Song and Robbie Whittal were also working with ITV/Edel and they left for the same reasons.

**AI: Flying Planet had a very strong presence across Europe, and was becoming quite**

all photos courtesy Aerodyne International





The ITV Saphir, circa 1989, a very popular glider back in its day.

**popular worldwide. But they chose not to sell in North America. Why?**

**ML:** Initially, it was a group insurance problem to sell in the USA, but not Canada. Our parent company, Zodiac, being a large multi-billion dollar business, was not willing to take the risk of selling paragliders to a country that has a reputation for high rates of litigation. Zodiac potentially had too much to lose. One of the reasons for creating our new company, Aerodyne, is to be able to sell to a larger market. Aerodyne International, the parachute manufacturer, already has a strong presence in the USA.

**AI: Why did Flying Planet ultimately cease production?**

**ML:** After September 11, 2001 there was a great deal of demand by governments worldwide for military hardware. Zodiac, of course, wanting to play a part in meeting this demand, began to borrow resources from the paragliding department in order to build military parachutes. In the process, they reduced our capacity to produce paragliders.

It's unfortunate, because it was a really good time for us at Flying Planet. We were producing very good gliders and growing each year in terms of sales and we were becoming very well known. But with Zodiac's priorities changing, we couldn't deliver gliders any more at the rate or quality we expected.

So we began looking at other opportunities that would allow us to continue designing better paragliders in a stable environment. And that's what we found with the people at the Aerodyne group. Today,

we have more opportunities and resources to produce the quality of gliders we want with Aerodyne than we did with Flying Planet.

**AI: How has Aerodyne International's experience in parachute manufacturing helped you in the paragliding department?**

**ML:** In fact, it's been the other way around. We in the paragliding department have made a lot of progress, and now we're seeing the parachute group picking up and incorporating some of our concepts and designs. For example, our reserve parachute, the Pillow, has such a good sink rate that one of the divisions in Aerodyne International wants to use it for the deceleration of planes. This is also the case for the design of their high performance sky diving parachutes which are now borrowing some concepts, such as V-ribs, from our paragliders.

**AI: Do you think that closed cells are going away, or are they here to stay? Is there a significant advantage to them, or are they simply a fashion?**

**ML:** Closed cells are better for the aerodynamic performance of the glider, because they allow for higher internal pressure, which allows the glider to move with the airflow. When the opening is very big, the glider is softer in the air and absorbs a lot of the air movement, so we use that for school gliders. But if the internal pressure is too high, the glider becomes too rigid, which has its own problems.

At the beginning of my career, I made totally closed gliders with valves, but we found this to be very dangerous. When you close the

cells, the pressure stays in the glider and influences the dynamic behaviour of the glider. Because the pressure is trapped, the drag characteristics cause the glider to turn very fast. We found that totally closed cells are very dangerous for paragliders. But for kites that's not a problem.

So we now we make partially closed cells to let the glider breath, but it has to be not too much — and then of course the theoretical advantage of closed cells is not as significant. I think the concept of semi-closed cells is a good one, but it is also a fashion.

**AI: Do you think that a plateau is being reached in terms of performance?**

**ML:** Slowly, because the performance gains now are coming in much smaller increments from the cumulative effect of many little things, such as the smoothness of the surface, the tension of the lines, etc.

**AI: Where do you think the next big jump in performance will come from — the materials, the design, or in the shape of harnesses?**

**ML:** If I knew that, I would make such a glider and immediately win the market! If there are any big performance gains to be made, I think it will be in terms of new materials for the canopy or lines.

**AI: Is the same plateau being reached in terms of safety? For example, in 5-6 years will they have a DHV 1 glider with a 9:1 glide ratio, or do you think performance will always exceed safety?**

**ML:** I think that competition pilots essen-

tially want speed, speed, speed. This can be dangerous. We have to consider all the characteristics of the glider to increase a little bit the speed, but also to minimize the sink rate. This is a less dangerous way. We are limited by the concept of the glider and aerodynamics.

Yes, it will be possible to have a DHV 1 glider with a 9:1 glide ratio, but the problem is the speed — it would probably only go 30 km/h.

**AI: What do you think of the serial class category of competitions?**

**ML:** When the idea first arrived, I thought it was a very good one and we worked on it with the Flying Planet glider, the Whisper. Before that, with ITV, we sought to make a monotype style of glider which we were trying to take to the 1992 Olympic games in Barcelona.

Although the idea of a serial class is very good, the problem was that neither the pilots

blame the gliders.

**AI: As a designer are you looking forward to and are you optimistic about the new CEN standard being adopted? And will it make your job easier or harder?**

**ML:** Because of the fight between AFNOR and DHV, the result is that the European norm established by CEN will make all parts of the test more difficult to obtain, and more expensive. We can only hope that it will not be illogical.

Designing safe gliders is a noble pursuit, and I myself advocate it by all means. However, I also don't think it's a good idea to make idiot-proof gliders. It's the pilot who is the most important factor in safety. They must be better trained. The air is always moving, the glider is made of fabric and lines, and they will always be collapsing. It's not good for the pilot to be lulled into a false sense of security

federation gives instructors, who in turn pass it along to students, to improve. In Europe this is a new and, I believe, a necessary and welcome development.

**AI: It's now been over a year since you launched the Aerodyne brand of paragliders. Are you happy with how things have developed?**

**ML:** We are very happy because we believe we've found our place in the market again, both in France and in Europe. In terms of sales, we are practically at the same level as during our final year at Flying Planet. But we've worked very hard to achieve this. We've invested a lot of money and energy to get a complete range of gliders in every market category. Also, with our new company, we've had an opportunity to step back and re-organize all the production and manufacturing facilities. The ability to incorporate the most



**Le Blanc's creations, from left to right: Gemma circa 1986, Michel's experiment with one way valves on the leading edge; Asterion, circa 1986, the first conception of V-Ribs now used in nearly all modern paragliders; Aerodyne Dune, the long awaited DHV2 glider due for release this year.**

nor the manufacturers played the game correctly in my opinion. The category of serial class gliders was too broad and varied greatly between different manufacturers. This led to a great deal of ambiguity because some of the serial class gliders were really competition gliders in my opinion.

**AI: What do you think of the argument that Hannes Papesh of Nova and the Ozone team make about competition gliders being dangerous and hurting the sport?**

**ML:** I'm not so sure I agree with this because we always have to strive to make gliders as best we can. I don't think competition gliders are dangerous by themselves, but by the way the pilots use them. If they fly in dangerous conditions, in remote places, or in rotor, of course it can be dangerous. Some pilots are dangerous, and it's not always fair to

during flight and think there is nothing to do but enjoy the view. You can usually feel something before a collapse, and pilots can almost always do something — fly actively — to prevent a glider from collapsing.

I consider the schools and the method of instruction to be the most important factor in safety. There is a big difference between the German method and the French method. Of course, I think the French method is better (laughs). The Germans always prefer DHV 1 gliders.

Of course it's important to have safe gliders, but just as important, if not more, is to train good, safe pilots. The French federation is considering revamping the entire method of instruction in light of the new developments in the sport like acro and freestyle. They believe that the standards of instruction have not kept pace with the practice of flying. They want the information that the

innovative technology in both the design and manufacturing process gives us reason to be very confident about the future.

**AI: And what are your plans for the future?**

**ML:** We will always be working on new and better wings and want to offer the best paragliders in the world. We are also making a line of kites, but our ambitions there are much more modest and we'd be happy with a small part of the kite market. We have no intention of entering the harness market. That's a specialized area, which requires a great deal of time and investment that we'd prefer to concentrate on paragliding. Paragliders are, and will always remain, Aerodyne's number one priority.

*Amir Izadi is a paraglider pilot from Victoria, British Columbia*

"For one week, we jumped, launched, climbed, looped and swooped off and around the features of this magnificent area."



all photos by Christian Pondella

Chris Muller flies by as Othar Lawrence base jumps during the Redbull Huckspedition 2003 in Northern Arizona.

## Redbull Huckspedition 2003

by Chris Muller

In October, 2003, I accompanied the Redbull Airforce to Monument Valley in Northern Arizona for "Huckspedition." Huckspedition is the brainchild of Othar Lawrence, Airforce team leader, and was designed to showcase the collective talents of the Airforce, as well as feature the freeclimbing of Will Gadd (champion iceclimber, freeclimber, and paraglider pilot) with the spectacular features of Monument Valley serving as a backdrop.

The Airforce is basically a show team of skydivers, base jumpers, and paraglider, hang glider, and ultralight

pilots who travel to demonstration events around North America, as well as work on film projects. The members in Monument Valley included myself, Othar Lawrence, Chris Santacroce, Myles Dasher, Shane McKonky, Charles Bryan, as well as European "Acro" team members Ueli Gegenschutz, and Dominic Steffan.

For one week, we jumped, launched, climbed, looped and swooped off and around the features of this magnificent area. Unfortunately, due to issues with the local Navajo tribe, we weren't able to gain access into the park itself until the last day of filming, but, fortunately, we

were able to finish on the most remarkable, and prominent feature in the park, the Totem Pole. The Totem Pole is every base jumper's (and climber's) dream, a 480 ft pillar, 20 ft by 20 ft on the top, and jumpable on all sides. I was hoping to be able to set my hang glider up and launch off the top, as Ed Cesar did in the early '70s film *UP*, but wind and current glider set-up needs prevented me from taking my glider onto the pillar. Still, I was able to do fly-bys as OJ, Myles, Shane, and Charles jumped off of it, and Will along with his girlfriend Kim Chizmazia climbed up its eastern face.



Capturing the event were photographers Christian Pondella, and Ulrich Grille, whose images are nothing short of spectacular. We will no doubt be seeing them in magazines for years to come. Redbull also plans to do an hour long documentary of the event, which should air sometime in the spring of 2004.

As a new Airforce team member, I can only hope that I am lucky enough to be involved with more of these projects and "Huckspedition" will certainly go down as one of my most memorable flying experiences!

**Three shots of Chris Muller flying on the backdrop of Northern Arizona scenary.**



# ONLY AS STRONG AS THE WEAKEST LINK



photo by Suja Hazlett

Canadian pilot Brett Hazlett on tow, competing in the Pre-Worlds Championship in Hay, Australia. According to John Janssen, whether you're competing in a world-class setting or with your local flying club, the weak link is essential for a safe tow.

BY JOHN JANSSEN

You're only as strong as your weakest link. In the case of towing aircraft, that "strength" needs to be limited, so the towing force remains manageable without over-stress the aircraft. That is the purpose of the "weak link."

The weak link is a small piece of cord of a predetermined breaking strength, connecting the towing bridle to the towline. So, in fact, the weakest link (the weak link) plays a big roll in maintaining reliability and, consequently, the safety of any towing system.

Whether areotowing or ground based towing, whether towing hang gliders, paragliders or sailplanes, the safety of using a weak link has been well established. There are also generally accepted allowable towline forces (weak link strength) for each of these various combinations of towing (see *Towing Aloft* by Pagen and

Brydon).

For an item that plays such an important part of towing safety, it is peculiar that is also the most variable in its construction and application. Therefore, the question that I wanted an answer for was: "What is the breaking strength of the weak link that I am currently using to tow hang gliders from a payout winch system?"

## Whether towing hang gliders, paragliders or sailplanes, the safety of using a weak link has been well established.

To find the answer, I went to see Murray Toft, Senior Instructor of Outdoor Pursuits in the Faculty of Kinesiology at The University of Calgary. Mr. Toft has experience testing climbing rope systems using the laboratory facilities located within the Outdoor Centre at the U of C.

Mr. Toft emphasized that in order to obtain accurate information, we would need

to duplicate in the lab, as precisely as possible, how the weak link was being used in the field. The shape and size of what you are attaching the weak link to, on either end, are critical in determining the breaking strength of the weak link, as is the configuration and size of the weak link itself. Even temperature and humidity can affect the strength of the weak link. It is important to note that the

data we collected is specific to the materials and configurations being tested only.

One end of the weak link was tied around 3 mm of Spectra wrapped around a stainless steel thimble and then spliced back into itself. The other end was attached to a three-string release bridle. In the lab, we just used the same size and type of rope used on the last loop of the bridle.

The weak link itself is a piece of 205 leech line. The single strand of line was tied with a single fisherman's knot, so it had a loop on both ends. Using different knots will



photos by John Janssen

(Left) Murray Toft demonstrating test system. Starting at top: winch hook, load sensor, bridle simulation, weak link, tow line, floor anchor. (Middle) Close-up of bridle and weak link (single strand) connection. (Right) From carabiner down: bridle simulation, four strand weak link, 3 mm Spectra tow line with stainless steel thimble.

yield different breaking strengths. We only tested the one knot.

The weak link was then attached to the towrope using various arrangements, resulting in a single, double, triple or quadruple strand weak link. See the chart for the summarized results

The length, size, type of material, as well as knots, configuration, and attach-

STRAND	AVERAGE
one	93.2
two	173.6
three	263.4
four	397.8

ment points, are all big factors in determining weak link breaking strengths. The important aspects are that you know the breaking strength of your weak links, and are consistent in their construction and application.

*John Janssen is a hang glider pilot from Calgary, Alberta, and teaches at Muller Windsports.*

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# SeeYou: your flight in 3D

Software that brings your GPS to life

BY DOUG KELLER

Over the last several years, GPS receivers have become an important tool for most hang glider and paraglider pilots. They've eliminated the need to fly with maps so we know where we are in the air, and we don't need to use maps or Great Circle Distance calculations to figure out our flight distance after a cross country flight. The screens are bigger, and the maps provide plenty of detail, including towns, roads, railways and bodies of water.

ware to upload and download waypoints and tracklogs. Graphical capabilities were added and we could use software like OziExplorer to display our flights on calibrated images of maps. The newest software now has 3D capabilities and uses terrain elevation data to display 3D maps. If we have a tracklog with altitude data included we can view our flights in 3D.

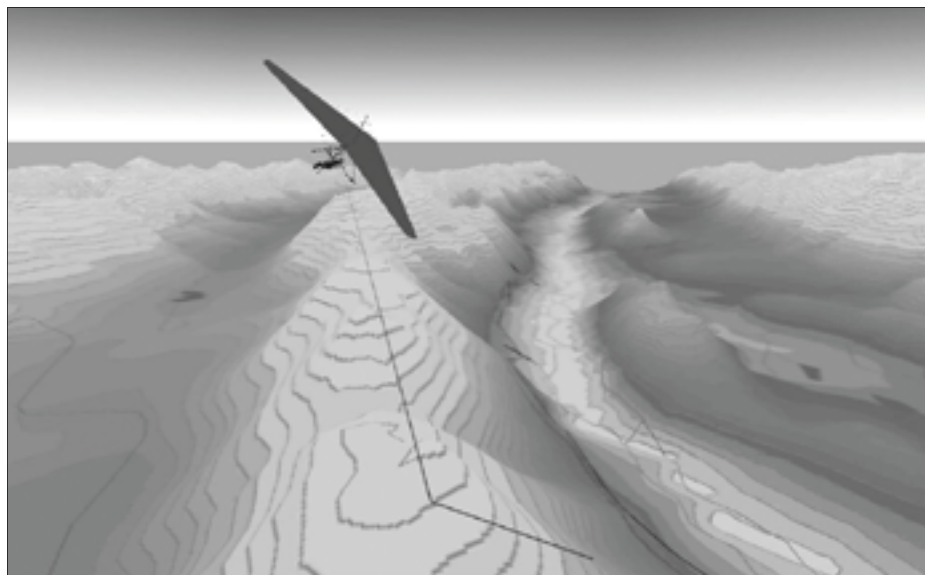
The software I will focus on in this article is called SeeYou. This is one of the best programs I have ever paid for. The amount of information you can get from

maps for most of world, downloaded from the SeeYou site. They also have elevation data for most of world available from their site that is easily integrated to produce 3D vector maps. There is also downloadable airspace information so you can see the airspace in 2D and 3D, as well as a wide selection of waypoints and turnpoints for most of the world. The newest info available now is satellite images to use with the 3D maps to make them look even more realistic. Unfortunately, satellite images for Canada aren't available yet, but hopefully they will be soon.

To use the software you can start by downloading your tracklog from your GPS receiver or logger. The Garmin interface is supported, as well as the Brauniger and Flytec flight decks with built-in receivers. You can save your flight in several formats including the IGC standard. When opening a flight, the correct map for the flight area is loaded automatically. You can set up the maps to display raster or vector maps and even combine them so you can see both at the same time.

There are four screens that show your flight in various ways. The route screen displays your tracklog on a 2D map. The tracklog can be setup to be colour-coded relative to altitude if altitude is available in the tracklog. You can configure the map to show waypoints and airspace and you can zoom in and out and pan easily with the mouse. The graph screen is a typical graph against time that can be set up to show various flight parameters including altitude, vertical speed and ground speed. On the altitude graph the ground level is shown and the bottom of the graph.

The Statistics screen gives a lot of detail about the flight. The General Information section includes takeoff and landing times and altitudes, when soaring begins and ends and the flight duration. It even lists sunrise and sunset times. The Flight Statistics section gives detail on how many thermals you were



One of Doug Keller's flights in Golden, BC, rendered in 3D by SeeYou GPS software.

For most competitions, a GPS receiver is now a requirement for entry. They help us navigate to turn points and to goal, and as long as we set them up correctly, the meet officials use our track logs to verify and score our flights.

They have become such an important part of our equipment that some of the higher end flight decks have receivers built in to allow maximum integration of the GPS information into pilot decision-making.

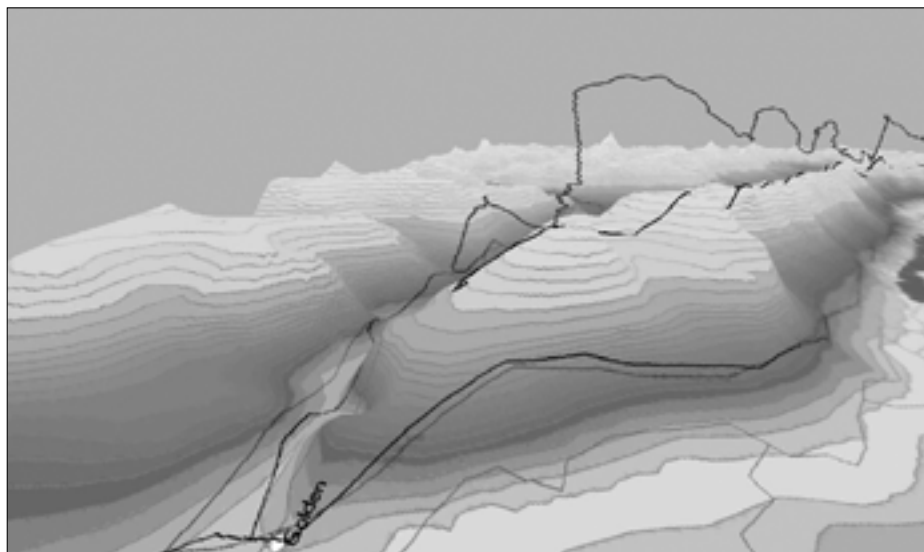
The software available for GPS use has kept up with the advancements in hardware.

In the beginning, we used simple soft-

a flight, the 3D playback capabilities and ease of use make it a bargain for the cost. I've tried a couple of others and in my view they aren't as good or user friendly as SeeYou.

SeeYou is produced in Slovenia and is written specifically for glider pilots, including hang gliders and paragliders. You can check out all the details and even download a fully functional evaluation version on their website at [www.seeyou.ws](http://www.seeyou.ws). They have just released a mobile version for Pocket PC as well.

SeeYou can display raster maps that you can scan and calibrate yourself, and can also display zoomable vector



**A SeeYou 3D flight path from Mt. 7. The town of Golden can be seen, marked in the bottom left.**

in, what direction you were turning in each, average climb rates and total altitude gained for each type; right, left and mixed. Straight flight is listed as rising, sinking and total, and information including altitude gained & lost, average speeds and mean L/D is shown. Vertical speed, altitude and ground speed are shown broken down into groups, so, for example, you can see how much of the flight was over 10,000 ft or if it was between 400-600 fpm climb rate. The Flight Statistics section also summarizes the low and high points and the max altitude gained.

The last screen, and for me the coolest, is the 3D map screen. It shows the 3D terrain with the 2D map and/or raster map information overlaid on the terrain, and the 3D flight path over the terrain. The shadow of the flight path is also shown on the "ground" below. You can even set-up the track to be colour coded with the altitude data. When you click the animation button you can watch your flight at any speed from 1-500x normal speed. I find that about 10x is a good compromise between too slow and boring and too fast and hard to follow. It can even display multiple flights so you can see how you did compared to other pilots flying at the same time.

During the animation, the flight parameters are displayed at the bottom of the screen, so you can see the time, your altitude, rate of climb and ground speed. You can see in the attached screen capture from a flight from Mt. 7 that I'm at

10,800 ft and climbing at 800 fpm. I'm at Parson, and, although you can't read them because of the angle, you can see the map labels for Harrogate and Spillimacheen.

You can select from several different glider styles including a sailplane, a hang glider and an eagle (yes, the bird). During the animation of the flight the bank angle of the glider changes relative to the turn radius which gives the animation a very realistic look. I set my tracklog to record every three seconds so you see every turn.

The other most important feature for me is the flight optimization and ability to automatically submit the flight to the Online Contest (OLC). I was originally planning to include some details for the online contest, but I'm out of time and space so that will have to wait for another issue. The short story is that it is a year-long world wide cross-country competition that requires a tracklog uploaded in the IGC format to verify your flight information. The flight can include up to three turnpoints and SeeYou will select the turnpoints to give the best score. The IGC file format includes a security record to prevent file tampering. For more details on the OLC check out these websites:

- <http://www.onlinecontest.org/holc/>
- <http://midwinter.ca/olc>
- <http://www.ozreport.com/compOnlineXC.php>

SeeYou has many other features, like

waypoint and task management, and flight planning. There is even an FAI triangle flight tool to help in planning world record triangle flights, and a competition module so you can use it to administer and score competitions. It isn't fully integrated with the Race scoring program yet, but that will likely change. The program producers are very open to feedback and are always making changes to make it better and more useful to the pilots using it.

The only drawback to the program, which is also really a benefit, is that it provides so much detail about your flight that it almost makes a log book obsolete. You can see exactly where you got that low save or where you got that boomer thermal. The only thing that it doesn't show is what the weather conditions were, but it wouldn't surprise me if real time weather overlays aren't some-

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**SeeYou provides so much detail about your flight that it almost makes a log book obsolete. You can see exactly where you got that low save or where you got that boomer thermal.**

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thing that will be added eventually. Satellite weather photos are already widely available; it's just a matter of downloading the right photos for the flight area and auto calibrating them.

To sum up, if you have a GPS, you should check out this program. It makes the hardware much more useful. You can download the free trial to see if you think it's worth it. I have no association with the company and have no interest in increasing sales other than the fact that the more hang glider and paraglider pilots that use the program the more it will be tailored to our needs.

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*Doug Keller is a hang glider pilot in Calgary, and HPAC President.*

Andre Nadeau describes what it's like

# Living with an ATOS-S



photo courtesy Aeronautic Innovation

Günther Tschurnig, winner of the Online Contest 2003, taking off in an ATOS glider.

I love hang gliding. Unfortunately, a nagging shoulder injury has robbed me of much of much of my shoulder strength and has proven too painful when rolling a flexwing. I reached the point where I was a danger to myself and to my fellow pilots, as I could barely turn left and my right turns were not much better.

It was time to find a hang glider I could turn safely without stressing my shoulder, or stick to paragliding. Nothing against paragliding — I own a paraglider and fly it occasionally — but my real love is hang gliding. So what is a desperate guy to do? Find a glider that requires little strength to turn, of course. And that means a rigid wing. Enter the ATOS-S.

Despite the uncooperative weather of 2003, I managed 16 flights and logged about 16 hours on the ATOS-S since I got it. Not a lot for sure, but enough for me to be able to pass on my first impressions.

## HOW I GOT INTO AN ATOS-S

There are a number of rigid hang gliders out, but they all come in one size — big

— except for the small Extassy and the small ATOS-S. The big size doesn't matter much in flight, because rigid wings have control surfaces that do all the work. However, the big gliders have two significant drawbacks as far as I am concerned. One, they do not fit in my garage. Two, they are heavy, and carrying them would put much stress on my shoulder. Although the small Exxtacy does fit in my garage, it is heavier than many of the large rigid wing and was simply not acceptable to me. Thus, my only real option was the ATOS-S.

Would I be able to find a small used ATOS, given that a new one was beyond my means? Would I be willing to buy one first and then find the answer? Given that the maximum recommended pilot weight for the ATOS-S is 187 lb and that my flight weight is about 180 – 185 lb, would the glider be able to carry my weight and still deliver decent performance? The answers to these three questions are yes, no, and yes respectively. Let me expand on that.

Yes, I was able to find an ATOS-S. There have been very few small ATOS sold in North America (probably fewer than 10) and find-

ing one for sale was very much a matter of luck. After a lengthy search, I finally located an ATOS-S at Mission Soaring Center in San Jose, California.

No, I was not willing to buy the glider first and find out how it flew after the fact. I had been burned doing that before, and I had no intention of going down that road again. I could not locate an ATOS-S to test fly in my neck of the woods, so I was in a quandary. It took some effort, but I eventually managed to convince my wife that San Francisco was a great location to spend our 2002 Christmas vacation. In reality, my wife let me convince her, as she could tell how much I wanted to go (thanks, Susan).

Although the weather was particularly poor during our stay, I did manage to make an appointment with Pat Denevan for a test flight on a decent day. I showed up at the towing/training hill field, and Pat promptly assembled the glider before demonstrating a take off and landing on a training hill. I told myself that it did not look too hard, so I took my turn. After seven uneventful flights off the training hill, I was convinced that the glider

launched and landed nicely in no wind to light wind conditions, and that ground handling was quite easy. Seven flights does not seem much, but believe me, it is a lot of work. The glider glided forever and dragging it back to the hill, and then up the hill is a major effort for a desk jockey. I got plenty of ground handling, that's for sure!

It was then time for a tow so I could really explore the handling. Pat has a stationary tow that he uses for training. While I was exerting myself with my training hill flights, Pat had been towing a bunch of students. So I got in line and, given my luck, the winch ran out of fuel halfway through my only tow and I did not get much altitude. Nevertheless, it was enough for me to make a few turns, an approach and a landing, and to decide that the glider was suitable. Upon my return to Canada, I purchased the glider and it arrived in Ottawa in May.

Yes, the glider can carry my weight quite well, although there is a price to pay which I will discuss later. Certainly, sixteen flights and sixteen hours over an entire summer is not a lot of airtime. I have a lot more to discover and learn about the glider, but this is as good a time as any to present my impressions. I know that much has been published about the ATOS, especially by Davis Straub, but practically all of it pertains to the big ATOS. My experience is that the ATOS-S behaves differently than its big brethren (based on what I have read anyway) in some areas, so there may be some value to my diatribe.

### TRANSPORTING THE ATOS

I am not really sure how vulnerable the ATOS is during transportation, and I do not want to find out first hand as this is an expensive puppy. I have heard that the D-Cells are quite fragile and need to be well supported and padded, and I was not prepared to take any chances. After looking at some existing solutions and considering various new ideas, I finally settled on a solution that works well for my vehicle. As the accompanying picture shows (top right), I built a rack from wire shelves and two inches of high-density foam that support the glider along 80 per cent of its length. Mission accomplished.

### HANDLING

The ATOS-S exceeds all my expectations as far as handling is concerned.

Getting the glider to roll is laughably easy,



photo by Andre Nadeau

**Andre Nadeau's solution for transporting his ATOS-S. He built a rack from wire shelves and two inches of high-density foam.**

as it takes minimal effort to move the spoilers. As a result, I have not experienced shoulder pain while flying the glider, and that makes me very happy indeed. Surprisingly, I found that I could yaw the glider a bit with weight shift, something I was told was not possible for a rigid. Maybe I can chalk that one up to my high wing loading. The usefulness of being able to yaw the glider may be somewhat limited in a rigid, so I am presenting this mostly as a curiosity at this time pending more experiments.

I have read that there is a delay between the initiation of roll input and the roll itself for the big ATOS. I much prefer a fast responding glider when flying close to terrain or coming for a landing in a turbulent LZ. No worry; with my wing loading, the ATOS-S rolls immediately upon roll input and the roll rate is very healthy — better than most flexwings I have test flown before. Very good, indeed.

I have also read that the big ATOS has a high bar pressure when pulling in, especially the models before the ATOS C. I did not find that to be a problem with the ATOS-S (mine is a B model so maybe it is an SB?). What I found is that the bar pressure is very light when pulling in throughout the entire speed range. The glider also has positive pitch stability (i.e. the basetube will return to trim if I let go unlike some high-performance gliders). Still looking good!

One of the gremlin about rigid wings is that they can spin if flown too slow in a turn. Pushing out in a turn is a habit that many flex wing pilots have to unlearn when transitioning to a rigid wing, because of this risk of spinning. In my case, that was not much of an issue because I always trimmed my flexwings at approximately stall speed or slower so that the trim would be about right in a turn, and I would not have to push out much, if at all.

This also means that I was always pulling in most of the time, so my transition to the ATOS was quite easy since I did not have to unlearn pushing out.

I did take one flight on my old flexwing this summer. I intended to paraglide that day as the predicted winds were light, but I brought my old Formula 144 just in case. The winds were too strong for paragliding, so hang gliding it was. What a difference! I found myself PIOing (Pilot Induced Oscillations) all over the place. I could not co-ordinate a turn properly, and my shoulder was hurting with each roll and pull in. I could not believe that I could unlearn how to fly a flexwing so quickly. I guess the lesson is it is easier to go from a flexwing to a rigid than the other way around — at least in my case.

### TOWING

The vast majority of my take-offs are from tow, either stationary winch, payout winch or aerotowing (usually in Florida). Apart from my seven training hill flights in California, I have only towed the glider so this is what I will talk about.

Towing the ATOS-S is *easy* — basically a no-brainer. This is true whether on a stationary winch or with a payout winch. I did not have an opportunity to aerotow the glider yet, but I have seen many people doing it at Wal-laby to know that it is also a non-issue.

I found that there is an interesting peculiarity with towing the ATOS-S that I had not read about before. On my first few tows on a stationary winch, and with the recommended 15 degrees of flaps, the towline tension to tow the ATOS-S were very light — less than what is required to tow a paraglider. The light towline tension was not premeditated as normal hang gliding towline tensions were

intended, but the glider was so fast that the towline tension never build up. Of course, this also meant that the tows were short in duration and that the altitude gains were not the best. I have since learned to put on more flap to dirty and slow down the glider. Although the glider does not climb as efficiently, it re-

the ATOS from flexwings. The performance and handling characteristics of the glider demand an aircraft approach which works great when the approach to the LZ supports it. When that is the case, the final approach glide angle is easily controlled with the very effective combination of full flaps and vary-



photo courtesy Aeronautic Innovation

**Toni Raumauf flying an ATOS in Australia.**

mains on the towline longer and gets towed at a higher towline tension resulting in a better altitude gain overall. At least, that is my impression, and I expect I will be experimenting with the best flap setting this year.

I could not find much about payout tow of the ATOS, and some people I talked to told me it was not a good idea for a variety of reasons. I now disagree with them. What I found is that staging cross or downwind is more delicate, because of the glider's lack of structural side wires. That is, the wings tend to drop, but with the proper care and attention, this can be handled and is not a big issue in my opinion. One must also be careful and remember that the glider has a longer wingspan than a typical flexwing, so roadside obstacles such as tall bushes can be a problem. However, this is more of an issue for the large ATOS than it is for the ATOS-S. Finally, the angle of the retaining rope to the keel is important — it should be as horizontal as possible to avoid putting undue pressure of the keel. Luckily, the tow system I am using was already setup ideally so no modifications were required.

## APPROACHES AND LANDINGS

Landings are relatively easy. I would compare them with those of an intermediate flexwing, although the approach speed is higher. However, the glider slows down well and the flare window is relatively wide. I have not had any appreciable problems landing the glider, and I do not consider myself particularly skilled at landings, a fact the nose cones of many of my past gliders will attest to.

It is really the approaches that differentiate

ing flying speed — pull in more, go down faster. Very effective.

The problem comes when the LZ is not favourable to aircraft approaches, which is the case at our main site at Champlain. Our LZ is located immediately at the base of our small mountain (or large hill, if you are from British Columbia), and it is narrow with obstacles on both sides. The straight-in glide path to avoid terrain is about 45 degrees, and a long straight final is basically impossible in any type of wind. In high winds, ground speed is low, but the ridge lift counteracts my efforts to descend. In low wind, I simply cannot dive fast enough to follow the terrain.

Either way, this makes for very delicate approaches, since the effective length of the LZ is cut by half. I cannot touch down before the half way point at best. The solution for a flexwing is to perform multiple slipping turns in both directions to lose altitude at the upwind side of the LZ, but these low-level manoeuvres are not recommended for rigid wings. I basically get one turn on final and there little leeway for errors.

Approaches in high winds are preferable, because they reduce the ground speed and effectively increase the usable length of the LZ somewhat. In low wind, I have to be prepared for a long glide that eats the LZ very quickly. I have concluded that it is preferable to make downwind landings in winds of 5 km or less because the downwind approach is clean of obstacles and I can come in low and fast. The flare requires better timing and I have to run the landing, but I consider that safer than the alternative. Not so good.

## PERFORMANCE

How well does the ATOS perform? To be honest, I do not really know, since I do not have an airspeed indicator or one of those fancy instruments that calculate L/D. This section is therefore mostly subjective, and is based on my impressions as a recreational pilot with basically no competition experience.

What I can say for sure is that the glider is fast — at least, compared to what I am used to. The glide speed is also much better than what I am experienced with, based on my few cross-country flights this year. I can now fly upwind and actually get to lift when I could not before. Going downwind, I get to the next cloud with a lot more altitude than I used to in my xc 142. It almost makes xc flights too easy, but I am sure I will get use to it.

Based on the three times I managed to thermal with my buddies, my sink rate is comparable to other flexwings. Of course, I have a highly-loaded ATOS-S and the larger ATOS would likely have a better sink rate. Good enough for me.

What I have found, though, is that low saves are much harder to pull off. The glider flies faster and has a larger turn radius, making it more difficult to stay in the small stuff down low. Also, I have to leave these thermals higher to give me time to set up a proper approach. Of course, the better glide and higher speed makes it less likely that I will need low saves. Overall though, I consider that a loss, as I have always enjoyed pulling off low saves. Some low saves are amongst my best memories of the sport. Oh well — you can't have everything.

## IN CONCLUSION

I purchased the ATOS-S to prolong my participation in the sport. I did expect some compromises — and there are some — but they are relatively minor. For example, I will no longer be able to hang glide in exotic locales because shipping the glider by air is simply not an option. But then, that's why I took up paragliding. Overall, the compromises are fewer and less significant than I was expecting. The glider does most of what I really care about quite well, and since it allows me to keep flying, I am not about to complain about its few shortcomings.

*Andre Nadeau is a hang glider pilot from Ottawa, Ontario*





Manzanillo Bay (top right) sits south of the town of Manzanillo, Mexico, and serves as a good spot for advanced surfers. Majahua Bay (bottom right), is a local fishing village. Just beyond the ridge in the top left of the photo lays Troncones, where Michael Robertson stayed while in Mexico this past winter.

photo courtesy Michael Robertson

## Mexican meanderings and the monarch: Michael Robertson recalls his winter spent flying in Latin America



I spent a wonderful winter on the Pacific coast of Mexico. Well, wonderful from a weather standpoint: 30° C every cloudless day and 24 every star-filled night. Imagine sensational sunsets that superlatives can't touch (have you ever seen the green flash?), waves that attract world-class surfers, excellent seafood and cheap beer.

Our tandem hang gliding operation was, however, a tough sell. We needed a simple truck/payout winch set-up on the beach rather than the top-end hydrostatic number I took, which was assaulted by the seasalt and sand.

(Anybody got a tandem rating and a payout system that would like to winter in paradise next year?)

The real fun began when I left for home. I allowed the cosmos to lead me to Cuernavaca, a gorgeous garden city, then to Topatzalan a magical Aztec mountain village with more UFO sightings than anywhere else on the planet, then to Valle de Bravo for a long overdue feast of flying.

My first contact was with Alas del

Hombre (Wings of Man) with their Da-Vinci's man with-bird-wing-added logo. Miguel Gutierrez has been flying since he was about five and running his mostly PG, some HG, user-friendly business forever. We had been corresponding for 10 years, so meeting him was exciting and inspiring. Next, I went up to the other group in town, Fly Mexico, mostly HG but lots of PG. Who should I bump into but the legendary "Ollie," formerly the leader of Safari Mexico.

We had several mutual friends, so the conversation was lively and led to a date on El Penon del Diable (Rock of the Devil) in the morning. With such a foreboding name, and since I hadn't launched off a mountain in many a moon, I decided to fly an Eagle 164. Good decision, err on the side of safety.

I launched last from the pine-covered perfectly sloped take-off. Actually, the forest could have been in Canada, except many of the trees had little cups collecting pitch. Apparently, this resin is highly prized as being the best in the world for violin bows. Good for business, bad for

the forest. Getting away from El Penon was a little more challenging than I had been led to believe. Ollie couldn't remember the last time he had to land in front at "the piano" LZ. His memory was refreshed in his near future when we both landed there!

After about 20 minutes of work with a couple of topless locals (gliders, of course), I finally caught a solid 500 up thermal. It was surprising that a Litespeed that came directly under me soon fell far below and didn't leave with me. I guess the bubble was smaller than it felt. Bullet might be more descriptive. One's ego is tempted in those situations to feel pretty good about its superior skill, but I remember flying with Larry Tudor in North Carolina one year when we repeatedly skied each other out.

The higher pilot was able to mark the lower's thermal and fly directly above, or below, the climbing glider repeatedly and still we were never able to lock into the same lift. My ability to out-climb one the world's best was definitely not due to my superior thermalling skills.

I thoroughly enjoyed my xc. Each thermal got me higher as I wandered through the valleys. The countryside and horizon were beautiful. To the north-east loomed a massive dormant volcano toping out at about 14,000 ft. To the south-east lay the huge man-made lake, and Valle is built on its shores. It is filled by the confluence of no less than five rivers. Small villages dotted the valleys.

With no radio I was careful to follow the main paved road toward Toluca. The winds aloft seemed to be picking up. Just shy of 13,000 ft, I realized the road disappeared into the next mountain pass. It clearly wound up the face, but both of the valleys beyond the ridge were plainly dirt-roaded. It was certainly tempting to continue, but common sense prevailed and I decided to head back toward Valle — on the Eagle that soon proved futile. Several times I could have climbed out again, but when I did, the increasing drift took me where I didn't want to go.

I picked an ideal looking field near the necessary road and set up to land. It was then that my decision about flying the eagle was rewarded. I got repeatedly slammed by a combination of mechanical turbulence from the strong winds and by still kick-ass thermal sheer. As I began to turn final I remembered again why we tell beginners that xc is advanced, and to, if possible, drive a planned xc route before flying it. The ploughed field I had chosen was a disaster; with wires on two sides and sloping the wrong way. Luckily I got popped at just the right moment and was



photo by Michael Robertson

**Ollie, formerly head of Safari Mexico, get's into his body armour, ready to fly.**

able to bail to a flat cropland scrub field behind it but further from the road. I was still not out of the woods. My approach at 9,000 ft, even on an eagle in strong winds, ate up the available space at an alarming rate. At the last moment (read ditch and flapping clothes line looming), I gave the flare all I had and landed perfectly. Whew, that was interesting.

Half the kids under 16 in Las Zaucos appeared to watch me break down. Their smiling faces warmed me as much as the sun. Then, just as I was bagging it, who should appear but Ollie.

"Well I'll be dipped in shit!" he laughed. "So that speck in the sky was you. What are the odds we'd end up in the same spot?"

The perfect day was secured by fantastic food at a roadside *tienda*, replete

with hand made tortillas, mole (a sweet, dark and delicious, special sauce), salad, beans, rice and of course, Cerveza. As the day dictated, at the ideal moment a sweet young couple with an extra large pick-up bed stopped and drove us and our birds into Valle. She was contentedly nursing her beatific baby. His shining eyes bespoke his pride in giving us a lift, in his family and in his wealth of spirit.

As Ollie described his landing I again marvelled at his love of free flight. A nasty trike accident left him nearly crippled. In spite of that he flies almost every day. He lands his Fusion on wheels (not exactly what I designed them for) wearing body armour! Imagine how carefully he needs to pick a field. To him, hitching back is part of the adventure. Neat. Hearing his Spanish with his peculiar accent and inflection is also a hoot.

The most amazing synchronicity was revealed later. We had landed in the little town adjacent to the winter home of millions of monarch butterflies. I am now involved with Miguel G.'s brother Vico, another fantastic being — but more on that another time, in undertaking a migration from Mexico to Canada to draw attention to the diminishing forest habitat of this incredible butterfly. They take three or is it four generations to get up here and somehow get back in one or two. Wild. Check out his web site at [www.aireimagen.com.mx/english/](http://www.aireimagen.com.mx/english/)

Thanks to all for their friendliness and support. *Hasta luego mi amigos. Vaya bien.*

*Michael Robertson is a hang glider pilot from Locust Hill, Ontario*



photo by Michael Robertson

**In the distance, from under Michael Robertson's wingtip, you can see the Lake of Five Rivers, and Valle de Bravo.**

# 2003 Canadian XC summary

A look back on a year recorded by Muller Windsports



photos courtesy Vincene Muller

Jeff Remple, who placed thurd in hang gliding XC flights originating out of Canada,, sits at goal.

BY VINCENE MULLER

This summary of xc flights is taken from flights entered on the Muller Windsports website xc List. For the past five years, a database on our website allows pilots to enter their flights. A few minutes of your time and your flight is recorded.

While xc flying has become more popular, the number of recorded flights has dropped. Too bad! If you want to enter your flights for 2004, go to our website, [www.mullerwindsports.com](http://www.mullerwindsports.com), choose hang glider or paraglider, xc flights and enter the data. It's a good idea to enter the flights on a regular basis, otherwise it will take you a long time at the end of the season to enter them all (be positive, it will be a great xc season). After entering your flights, take time and browse back through the flights of yesteryear.

The Canadian Hang Gliding xc log was started back in 1984. The ranking is a total of the best three flights. The '80s

were really the "hey day" of xc flying in Canada. 100-mile flights were frequent, especially in the spring months. 100-mile flights were flown in Alberta, BC, Saskatchewan, Quebec, Ontario & Manitoba. The first Canadian 100-mile flight was by Willi Muller in April, 1981, 141 miles from Cochrane Hill to Coronation, Alberta. As Cochrane Hill was a prairie hill of 300 ft, it showed that a mountain was not needed to fly xc.

The xc list each year reached around 100 pilots, with several flights reported over 100 miles. Before the days of email, I would receive an excited phone call telling me of a flight — sometimes the phone call was made while the pilot was waiting for retrieval. Pilots didn't worry about radios and retrieval. If conditions were favourable, they just flew xc and didn't worry about getting home. I could write a novel about some retrievals.

The excitement of xc flights for hang glider pilots remains especially in Alberta and Golden, BC.

## SUMMARY OF 2003 HANG GLIDING XC FLIGHTS IN CANADA

Ross Hunter of Edmonton heads the list for 2003 with a three-flight total of 437 km. All of his flights were from Atol truck tow. His total for the year was 539 km.

Doug Keller of Calgary was second with 361 km and a year's total of 681 km. Doug's flights were from both tow and in Golden.

Rick Chubey of Winnipeg spent his holidays in Golden for the first time. His three-flight total was 348 km and his total for his week in Golden was 706 km. He will be back to Golden I am sure.

Terry Thordason of Calgary, in fourth place, had a 327 km three-flight total with 543 km for the year — all from truck tow. Serge Larmarche of Golden had a 314 km three-flight total, but a huge 1293 km flown over the year, all in Golden.

Other noteworthy news includes a

150 km flight by Carlos Rizo off aerotow in Ontario.

While Armand Acchione has had a similar flight in previous years, he was flying a rigid wing but Carlos flew his flight on a Wills Wing Talon.

It should be noted that in 2003 there were no flights reported from Quebec.

Several up-and-coming Alberta pilots plan on challenging the leaders in 2004. Beware — they have been planning strategy all winter!

#### **2003 XC HANG GLIDING FLIGHTS BY CANADIAN PILOTS OUTSIDE OF CANADA**

First place was a tie between Brett Hazlett & Chris Muller, due to the reporting of competition flights. Their “best three-flight totals” of 539 km, were flown during the Australian Nationals

in Hay in January 2003. Brett flew more than 3,000 km, but did not report his flights in the World Championships in Brazil, nor from the Canadian Nationals. Reported flights were in the Hay, Bogong Cup, Deniliquin (Australia), Wallaby & Quest (Florida) meets. The total for Chris — 2,333 km, was from Hay, Bogong Cup, Wallaby and Quest.

Next on the list was Jeff Remple, who travelled to Australia for the Bogong and Hay meets and had some outstanding flights. His three-flight total was 449 km.

Eric Paquette of Quebec entered the Florida Meets flying a rigid wing. He placed fourth in the three-flight total with 398 km.

Paraglider pilot Bernard Winkelmann took hang gliding lessons in 2002 and by the end of the season had his first ridge soaring and xc flights (on single surface

gliders). Bernard decided that in order to gain experience and airtime he would go to the two hang gliding competitions in Australia in January 2003, after all, the way he became a world class paraglider pilot was to go to hang gliding competitions in Canada, then it was an easier transition to world class paragliding competitions.

Bernard moved from a Falcon 195 to a Fusion 150 — how hard can it be?

His first competition, the Bogong Cup was a learning experience, thermalling a hang glider in a gaggle of world class pilots you learnt in a hurry or you land quickly. Fortunately, Bernard had excellent launch and landing skills (he will tell you that a Fusion is easy to land) and daily flew further towards goal. Highlight of his trip to Australia was making goal and his first 100 mile flight, at the Australian Nationals in Hay. Bernard's



**Randy Parkin, seen here flying in Brazil last year, ranked sixth for paragliding XC flights originating in Canada, and second for flights originating outside Canada.**

# THE LEADER BOARD

(best three-flight totals, in km)

## Hang gliding XC Flights Originating in Canada

1	Hunter, Ross	437.00
2	Keller, Doug	350.90
3	Chubey, Rick	348.00
4	Thordason, Terry	327.40
5	Lamarche, Serge	313.80
6	Klassen, Hans	273.70
7	Janssen, John	231.70
8	Beckingham, Doug	211.70
9	Gravelle, Scott	206.20
10	Hope, Winston	200.00
11	Herton, Ralph	199.00
12	Nadeau, Andre	159.00
13	Rizo, Carlos	150.00
14	Durand, Benoit	128.50
15	Polach, Martin	101.00
16	Hanson, Bruce	61.90
17	Wilson, John	60.00
18	Miller, Rick	53.00
19	Breton, Marc	46.50
20	Brauer, Clay	17.50
21	Hass, Brian	15.00

## Hang gliding XC Flights Originating Out of Canada

1	Hazlett, Brett	539.80
	Muller, Chris	539.80
3	Remple, Jeff	449.00
4	Paquette, Eric	398.34
5	Winkelmann, Bernard	380.80
6	Borradaile, Tyler	354.56
7	Rizo, Carlos	316.00
8	Bateman, Barry	237.60
9	Keller, Doug	33.10

## Paragliding XC Flights Originating in Canada

1	Warren, Charles	377.00
2	Mitchell, Ian	323.00
3	MacCullough, Keith	308.00
4	McLearn, Nicole	302.00
5	Chodanowski, Jacek	206.00
6	Parkin, Randy	191.20
7	Muller, Chris	133.00
8	Brossard, Jean	128.00
9	MacDonald, Sheralee	106.00
10	Phipps, Barry	88.50
11	Watwood, Scott	86.00
12	Hepple, Darren	66.39
13	Howes, Tony	60.00
14	Solvbjerg, Greg	44.40
15	Protz, Doug	23.00

## Paragliding XC Flights Originating Out Of Canada

1	Muller, Chris	316.50
2	Parkin, Randy	160.20
3	Polster, Alan	88.60

background photo by Richard Reid

best three-flight total was 380 km. Not too bad for a Novice pilot!

## SUMMARY OF 2003 CANADIAN PARAGLIDING XC FLIGHTS IN CANADA

Paragliding xc flights in Canada have been documented since 1990.

Not a lot of pilots reported flights in 2003 (lazy?), however those that took the time had great flights. The long flights once again were in Golden. It was a memorable year, and we have a new group on top of the list.

Charles Warren, currently working in the U.S., made his annual pilgrimage to Golden with the Ontario Pilots and tops the list this year. His longest flight was 148 km, for a three-flight total of 377 km. His total for the week in Golden was 592 km.

Second this year was Vancouver pilot Ian Mitchell, with three-flight total of 323 km and a total for the Golden week of 432.

Third was Nicole McLearn also of Vancouver. Her three-flight total was 302 km — her longest flight was 128 km, the longest flight to date by a female pilot in Canada. Nicole spent the time to report all of her flights. Her total for 2003 was 762 km. This was the

largest total reported by any Canadian paraglider pilot in 2003.

## 2003 XC FLIGHTS BY CANADIAN PILOTS OUTSIDE OF CANADA

Not many pilots reported flights from their flying holidays. Chris Muller went to Texas to try some towing in Zapata.

He only had two good flights totalling 316 km.

Randy Parkin & Alan Polster had some good flights in Brazil, so good that they have gone back again this year.

## COCHRANE XC CHALLENGE

The Cochrane xc Challenge is a year-



Carlos Rizo ranked 13th for XC flights within Canada, with a three-flight total of 150 km.



long competition that for hang gliders and paragliders that keeps the excitement of xc flying alive. Pilots launch off Cochrane Hill. Pilots contribute \$10 each and Muller Windsports put in \$150 (plus \$10 for each pilot registered) for first place, 2nd place gets \$100 and third place receives \$50.

Winners for 2003 Cochrane xc Challenge were:

#### Hang Gliding

Terry Thordason	109.20 km
Bruce Hanson	56.90 km
Scott Gravelle	35.90 km

#### Paragliding

Keith MacCullough	42.0 km
Doug Protz	23.0 km

Some of the winners: (Clockwise, starting top right) Chris Muller, tied for first in HG XC flights in Canada, on tow; Brett Hazlett, sharing the same first-place title, on tow; Bernard Winkelmann, fifth for PG XC flights out of Canada, after a flight at goal; Brett Hazlett in flight



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		<b>Or AIR Magazine ONLY</b>	
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<sup>1</sup> The HPAC/ACVL collects Provincial Membership fees on behalf of Provincial Associations. This mandatory fee is set by Provincial Associations.

## **HPAC/ACVL WAIVER**

### **RELEASE, WAIVER AND ASSUMPTION OF RISK**

I, \_\_\_\_\_, hereby acknowledge and agree that in consideration of being permitted to participate in Hang Gliding/Paragliding programs or activities, I hereby agree to release and discharge Owners and / or Lessors of land who have granted permission for the use of property for Hang Gliding/Paragliding programs or activities, the **Hang Gliding and Paragliding Association of Canada a/o Association Canadienne De Vol Libre**, their officers, directors, representatives, employees, members and all other persons or entities acting in any capacity on their behalf (hereinafter collectively referred to as Releasee) from all liability and I do hereby waive as against the Releasee all recourses, claims, causes of action of any kind whatsoever, in respect of all personal injuries or property losses which I may suffer arising out of or connected with, my preparation for, or participation in, the aforesaid Hang Gliding/Paragliding programs or activities, notwithstanding that such injuries or losses may have been caused solely or partly by the negligence of the Releasee

#### **1. And I do hereby acknowledge and agree;**

- a) that the sport of Hang Gliding/Paragliding and Hang Gliding/Paragliding is very dangerous, exposing participants to many risks and hazards, some of which are inherent in the very nature of the sport itself, others which result from human error and negligence on the part of persons involved in preparing, organizing and staging Hang Gliding/Paragliding programs or activities;
- b) that, as a result of the aforesaid risks and hazards, I as a participant may suffer serious personal injury, even death, as well as property loss;
- c) that some of the aforesaid risks and hazards are foreseeable but others are not;
- d) that I nevertheless freely and voluntarily assume all of the aforesaid risks and hazards, and that, accordingly, my preparation for, and participation in the aforesaid Hang Gliding/Paragliding programs and activities shall be entirely at my own risk;
- e) that I understand that the Releasee does not assume any responsibility whatsoever for my safety during the course of my preparation for or participation in the aforesaid Hang Gliding/Paragliding programs or activities;
- f) that I have carefully read this **RELEASE, WAIVER AND ASSUMPTION OF RISK** agreement, that I fully understand same, and that I am freely and voluntarily executing same;
- g) that I understand that by signing this release I hereby voluntarily release, forever discharge and agree to indemnify and hold harmless the Releasee for any loss or damage connected with any property loss or personal injury that I may sustain while participating in or preparing for any Hang Gliding/Paragliding programs or activities whether or not such loss or injury is caused solely or partly by the negligence of the Releasee;
- h) that I have been given the opportunity and have been encouraged to seek independent legal advice prior to signing this agreement;**
- i) that the term Hang Gliding/Paragliding programs or activities as used in this **RELEASE, WAIVER AND ASSUMPTION OF RISK** agreement includes without limiting the generality of that term, the Hang Gliding programs and activities as well as all other competitions, fly-ins, training sessions, clinics, towing programs and events;
- j) this **RELEASE, WAIVER AND ASSUMPTION OF RISK** agreement is binding on myself, my heirs, my executors, administrators, personal representatives and assigns and;
- k) that I have had sufficient opportunity to read this entire document. I have read and understood it, and I agree to be bound by its terms.**

Signature of Participant: \_\_\_\_\_ Date: \_\_\_\_\_

Participant Name (Print clearly): \_\_\_\_\_

Signature of Witness: \_\_\_\_\_ Date: \_\_\_\_\_

Witness Name (Print clearly): \_\_\_\_\_

**Note:** You are only required to sign the HPAC Waiver once but we would prefer that you complete one every year. To verify that we have a waiver on file for you, visit the HPAC/ACVL site at <http://www.hpac.ca>.

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